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EXAMINER
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BORISSOV, IGOR N

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3629

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Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 09/592,618  
Filing Date: June 13, 2000  
Appellant(s): WALKER ET AL.

**MAILED**

OCT 19 2004

**GROUP 3600**

Magdalena M. Fincham  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 07/08/2004

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

The brief does not contain a statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief. Therefore, it is presumed that there are none. The Board, however, may exercise its discretion to require an explicit statement as to the existence of any related appeals and interferences.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

No amendment after final has been filed.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is correct.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims 1-28, 30-57, 59-64 and 81-87 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

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**(9) Prior Art of Record**

No prior art is relied upon by the examiner in the rejection of the claims under appeal.

**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

Upon reconsideration, Claim Rejections under 35 USC § 103 in respect to claims 1-28, 30-57, 59-64 and 81-87 have been withdrawn.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 1-28, 30-57, 59-64 and 81-87 are rejected under 35 U.S.C. 101 because the claimed method for rewarding a party does not recite a limitation in the technological arts.** The independently claimed steps of: *receiving information relating to a first transaction; determining a benefit, said benefit based at least in part on said information; determining a price for said benefit; charging the price to a customer associated with the first transaction; and applying said benefit during a second transaction*, are abstract ideas which can be performed mentally without interaction of a physical structure.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement

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thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is

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presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

The claims of the present application are distinguished from the claims analyzed in the decisions of *State Street*, *Alappat*, *Arrhythmia* and *AT&T*, where the claims in these cases clearly involved the use of technology as shown below.

**State Street:** The claims were in means plus function form and directed to a data processing system for managing a financial services configuration of a portfolio established as a partnership; the claims included limitations of a computer processor means for processing data, a storage means for storing data on a storage medium along with first through fifth means for processing different types of financial data. As such, the claims analyzed in *State Street* clearly involved the technological arts and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**AT&T Corp:** The claims were directed to a method for use in a telecommunications system in which interexchange calls initiated by each subscriber are automatically routed over the facilities of a particular one of a plurality of interexchange carriers associated with that subscriber comprising generating a message record for an interexchange call between an originating subscriber and a terminating subscriber, and including, in said message record, a primary interexchange carrier (PIC) indicator having a value which is a function of whether or not the interexchange carrier associated with said terminating subscriber is a predetermined one of said interexchange carriers. In considering these claims, it is clear that technology is being used to "automatically route" calls over the facilities of interexchange carriers and generating a message record for the call. Furthermore, the courts, in analyzing these claims, clearly indicated that they recognized the claims require the use of switches and computers. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1450 (Fed. Cir. 1999). The court further noted that AT&T's claimed process employs subscriber's and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through

*switching and recording mechanisms* to create a signal useful for billing purposes. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Alappat:** The claims were directed to a rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising various means for determining distances and means for outputting illumination intensity data. Alappat's invention related generally to a means for creating a smooth waveform display in a digital oscilloscope and as indicated by the court, Alappat's invention is an improvement in an oscilloscope comparable to a TV having a clearer picture. The court reasoned that invention was statutory because the claimed invention was directed to a "machine". See *In re Alappat*, 31 USPQ2d at 1552-54 (Fed. Cir. 1994). Furthermore, in the decision of *AT&T Corp.*, the courts recognized that the claims in Alappat were for a machine that achieved certain results. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 50 USPQ2d at 1452 (CAFC 1999). Once again, these claims clearly involve the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Arrhythmia:** The claims were directed to a method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal including the step of converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time. In considering these claims, it is clear that technology is being used to convert a series of QRS signals to time segments having a digital value. Once again, these claims clearly involve the technological arts since one could not convert a signal to a time segment having a digital value without the



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aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, claims 1-28, 30-57, 59-64 and 81-87 are completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology whatsoever. The claims are no more than a suggested idea of offering a future discount to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *receiving information relating to a first transaction; determining a benefit, said benefit based at least in part on said information; determining a price for said benefit; charging the price to a customer associated with the first transaction.*

Furthermore, in accordance with MPEP 2106 (IV)(B)(2)(b) "Statutory Process Claims", not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. See *Diamond v. Diehr*, 450 U.S. at 183-184, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)). The claims in the present application do not appear to satisfy either of the two conditions listed above. First, the claims do not include limitations that would suggest a computer is being used to transform the data from one form to another that would place the invention in the technological arts. Second, disregarding the fact that there is no computer claimed that would physically transform the data, there does not appear to be any physical transformation of data. The claims merely determine *a benefit* and *a price for said benefit*, however, *said benefit* and *a price for said benefit* appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor. In other words, the claims suggest that if the information

relating to the first transaction meets certain conditions, then the customer is eligible for the future benefit, however, the value of the future benefit appears to be arbitrarily set by some other means (possibly a human) and not a result of an algorithm performed by a computer or processor specifically analyzing said information. Thus, there neither appears to be any physical transformation of data from one form to another, which is based upon an algorithm or a calculation by a computer or processor, nor is there any technology claimed that would be used to transform the data.

Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, those claims and claims depending from them, are not permitted under 35 USC 101 as being related to non-statutory subject matter.

**(11) Response to Argument**

**GROUP I**

**Claims 1-28, 30-57.**

***Claim Rejections - 35 USC § 101***

In response to the applicant's argument that Claim Rejections under 35 USC § 101 is improper, the Examiner maintains that claims 1-28 and 30-57 are rejected under 35 U.S.C. 101 because the claimed method does not recite a limitation in the technological arts. The independently claimed steps of: *receiving information relating to a first transaction; determining a benefit, said benefit based at least in part on said information; determining a price for said benefit; charging the price to a customer associated with the first transaction; and applying said benefit during a second transaction*, are abstract ideas which can be performed mentally without interaction of a physical structure.

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technology is being used to "automatically route" calls over the facilities of interexchange carriers and generating a message record for the call. Furthermore, the courts, in analyzing these claims, clearly indicated that they recognized the claims require the use of switches and computers. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1450 (Fed. Cir. 1999). The court further noted that AT&T's claimed process employs subscriber's and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through *switching and recording mechanisms* to create a signal useful for billing purposes. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Alappat:** The claims were directed to a rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising various means for determining distances and means for outputting illumination intensity data. Alappat's invention related generally to a means for creating a smooth waveform display in a digital oscilloscope and as indicated by the court, Alappat's invention is an improvement in an oscilloscope comparable to a TV having a clearer picture. The court reasoned that invention was statutory because the claimed invention was directed to a "machine". See *In re Alappat*, 31 USPQ2d at 1552-54 (Fed. Cir. 1994). Furthermore, in the decision of *AT&T Corp.*, the courts recognized that the claims in Alappat were for a machine that achieved certain results. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 50 USPQ2d at 1452 (CAFC 1999). Once again, these claims clearly involve the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

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level of high frequency energy in the late QRS signal including the step of converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time. In considering these claims, it is clear that technology is being used to convert a series of QRS signals to time segments having a digital value. Once again, these claims clearly involve the technological arts since one could not convert a signal to a time segment having a digital value without the aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, Claims 1-28 and 30-57 are completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology whatsoever. The claims are no more than a suggested idea of offering a future discount to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *receiving information relating to a first transaction; determining a benefit, said benefit based at least in part on said information; determining a price for said benefit; charging the price to a customer associated with the first transaction.*

Furthermore, in accordance with MPEP 2106 (IV)(B)(2)(b) "Statutory Process Claims", not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. See *Diamond v. Diehr*, 450 U.S. at 183-184, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)). The claims in the present application do not appear to satisfy either of the two conditions listed above. First, the claims do not include limitations that would suggest a computer is being used to transform the data from one form to another that would place the invention in the

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Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, those claims and claims depending from them, are not permitted under 35 USC 101 as being related to non-statutory subject matter.

## **GROUP II**

### **Claims 59-64.**

#### ***Claim Rejections - 35 USC § 101***

In response to the applicant's argument that Claim Rejections under 35 USC § 101 is improper, the Examiner maintains that claims 3 and 7-11 are rejected under 35 U.S.C. 101 because the claimed method does not recite a limitation in the technological arts. The independently claimed steps of: *determining at least one product being purchased by a customer during a first transaction; determining a price for said at least one product being purchased during said first transaction; offering said customer an opportunity to purchase said at least one product during a second transaction at said*



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*price; receiving an acceptance of said offer from said customer; receiving, from said customer, a payment for the opportunity; and allowing said customer to purchase said product during said second transaction for said price, are abstract ideas which can be performed mentally without interaction of a physical structure.*

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

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patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

The claims of the present application are distinguished from the claims analyzed in the decisions of *State Street*, *Alappat*, *Arrhythmia* and *AT&T*, where the claims in these cases clearly involved the use of technology as shown below.

**State Street:** The claims were in means plus function form and directed to a data processing system for managing a financial services configuration of a portfolio established as a partnership; the claims included limitations of a computer processor means for processing data, a storage means for storing data on a storage medium along with first through fifth means for processing different types of financial data. As such, the claims analyzed in *State Street* clearly involved the technological arts and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**AT&T Corp:** The claims were directed to a method for use in a telecommunications system in which interexchange calls initiated by each subscriber are automatically routed over the facilities of a particular one of a plurality of interexchange carriers associated with that subscriber comprising generating a

message record for an interexchange call between an originating subscriber and a terminating subscriber, and including, in said message record, a primary interexchange carrier (PIC) indicator having a value which is a function of whether or not the interexchange carrier associated with said terminating subscriber is a predetermined one of said interexchange carriers. In considering these claims, it is clear that technology is being used to "automatically route" calls over the facilities of interexchange carriers and generating a message record for the call. Furthermore, the courts, in analyzing these claims, clearly indicated that they recognized the claims require the use of switches and computers. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1450 (Fed. Cir. 1999). The court further noted that AT&T's claimed process employs subscriber's and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through *switching and recording mechanisms* to create a signal useful for billing purposes. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Alappat:** The claims were directed to a rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising various means for determining distances and means for outputting illumination intensity data. Alappat's invention related generally to a means for creating a smooth waveform display in a digital oscilloscope and as indicated by the court, Alappat's invention is an improvement in an oscilloscope comparable to a TV having a clearer picture. The court reasoned that invention was statutory because the claimed invention was directed to a "machine". See *In re Alappat*, 31 USPQ2d at 1552-54 (Fed. Cir. 1994). Furthermore, in the decision of *AT&T Corp.*, the courts recognized that the claims in Alappat were for a machine that achieved certain results. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 50 USPQ2d at 1452 (CAFC 1999). Once again, these claims

clearly involve the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Arrhythmia:** The claims were directed to a method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal including the step of converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time. In considering these claims, it is clear that technology is being used to convert a series of QRS signals to time segments having a digital value. Once again, these claims clearly involve the technological arts since one could not convert a signal to a time segment having a digital value without the aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, claims 59-64 are completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology whatsoever. The claims are no more than a suggested idea of offering same price for the product in future transaction to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *determining at least one product being purchased by a customer during a first transaction; determining a price for said at least one product being purchased during said first transaction; offering said customer an opportunity to purchase said at least one product during a second transaction at said price; receiving an acceptance of said offer from said customer; receiving, from said customer, a payment for the opportunity; and allowing said customer to purchase said product during said second transaction for said price.*

Furthermore, in accordance with MPEP 2106 (IV)(B)(2)(b) "Statutory Process Claims", not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296,

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30 USPQ2d at 1460. To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. See *Diamond v. Diehr*, 450 U.S. at 183-184, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)). The claims in the present application do not appear to satisfy either of the two conditions listed above. First, the claims do not include limitations that would suggest a computer is being used to transform the data from one form to another that would place the invention in the technological arts. Second, disregarding the fact that there is no computer claimed that would physically transform the data, there does not appear to be any physical transformation of data. The claims merely recite *offering said customer an opportunity to purchase said at least one product during a second transaction at said price*; however, said *opportunity* appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor. Thus, there neither appears to be any physical transformation of data from one form to another, which is based upon an algorithm or a calculation by a computer or processor, nor is there any technology claimed that would be used to transform the data.

Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, those claims and claims depending from them, are not permitted under 35 USC 101 as being related to non-statutory subject matter.

### **GROUP III**

#### **Claims 81-83.**

#### ***Claim Rejections - 35 USC § 101***

In response to the applicant's argument that Claim Rejections under 35 USC § 101 is improper, the Examiner maintains that claims 81-83 are rejected under 35

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U.S.C. 101 because the claimed method does not recite a limitation in the technological arts. The independently claimed steps of: *determining a first price for which a first unit of a product is being purchased as part of a first transaction at a point of sale terminal; determining a benefit, in which the benefit comprises a guarantee that no more than the first price for a second unit of the product will be charged if the second unit of the product is purchased as part of a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a second price; and charging a customer that is purchasing the first unit of the product for the second price if the customer accepts the offer*, are abstract ideas which can be performed mentally without interaction of a physical structure.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention

incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather,



statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

The claims of the present application are distinguished from the claims analyzed in the decisions of *State Street*, *Alappat*, *Arrhythmia* and *AT&T*, where the claims in these cases clearly involved the use of technology as shown below.

**State Street:** The claims were in means plus function form and directed to a data processing system for managing a financial services configuration of a portfolio established as a partnership; the claims included limitations of a computer processor means for processing data, a storage means for storing data on a storage medium along with first through fifth means for processing different types of financial data. As such, the claims analyzed in *State Street* clearly involved the technological arts and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**AT&T Corp:** The claims were directed to a method for use in a telecommunications system in which interexchange calls initiated by each subscriber are automatically routed over the facilities of a particular one of a plurality of interexchange carriers associated with that subscriber comprising generating a message record for an interexchange call between an originating subscriber and a terminating subscriber, and including, in said message record, a primary interexchange carrier (PIC) indicator having a value which is a function of whether or not the interexchange carrier associated with said terminating subscriber is a predetermined one of said interexchange carriers. In considering these claims, it is clear that technology is being used to "automatically route" calls over the facilities of interexchange carriers and generating a message record for the call. Furthermore, the courts, in analyzing these claims, clearly indicated that they recognized the claims require the use of switches and computers. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1450 (Fed. Cir. 1999). The court further noted that AT&T's claimed process employs subscriber's and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through *switching and recording mechanisms* to create a signal useful for billing purposes. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Alappat:** The claims were directed to a rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising various means for determining distances and means for outputting illumination intensity data. Alappat's invention related generally to a means for creating a smooth waveform display in a digital oscilloscope and as indicated by the court, Alappat's invention is an improvement in an oscilloscope comparable to a TV having a clearer picture. The court reasoned

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that invention was statutory because the claimed invention was directed to a "machine". See *In re Alappat*, 31 USPQ2d at 1552-54 (Fed. Cir. 1994). Furthermore, in the decision of *AT&T Corp.*, the courts recognized that the claims in *Alappat* were for a machine that achieved certain results. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 50 USPQ2d at 1452 (CAFC 1999). Once again, these claims clearly involve the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Arrhythmia:** The claims were directed to a method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal including the step of converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time. In considering these claims, it is clear that technology is being used to convert a series of QRS signals to time segments having a digital value. Once again, these claims clearly involve the technological arts since one could not convert a signal to a time segment having a digital value without the aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, claims 81-83 are completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology whatsoever. The claims are no more than a suggested idea of offering a future discount to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *determining a first price for which a first unit of a product is being purchased as part of a first transaction at a point of sale terminal; determining a benefit, in which the benefit comprises a guarantee that no more than the first price for a second unit of the product will be charged if the second unit of the product is purchased as part of a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a*

*second price; and charging a customer that is purchasing the first unit of the product for the second price if the customer accepts the offer.*

Furthermore, in accordance with MPEP 2106 (IV)(B)(2)(b) "Statutory Process Claims", not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. See *Diamond v. Diehr*, 450 U.S. at 183-184, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)). The claims in the present application do not appear to satisfy either of the two conditions listed above. First, the claims do not include limitations that would suggest a computer is being used to transform the data from one form to another that would place the invention in the technological arts. Second, disregarding the fact that there is no computer claimed that would physically transform the data, there does not appear to be any physical transformation of data. The claims merely determine *a benefit*, however, said *benefit* appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor. Thus, there neither appears to be any physical transformation of data from one form to another, which is based upon an algorithm or a calculation by a computer or processor, nor is there any technology claimed that would be used to transform the data.

Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, those claims and claims depending from them, are not permitted under 35 USC 101 as being related to non-statutory subject matter.

**GROUP IV**

**Claim 84.**

***Claim Rejections - 35 USC § 101***

In response to the applicant's argument that Claim Rejections under 35 USC § 101 is improper, the Examiner maintains that claims 81-83 are rejected under 35 U.S.C. 101 because the claimed method does not recite a limitation in the technological arts. The independently claimed steps of: *determining a first price for which a first unit of a product is being purchased as part of a first transaction at a point of sale terminal; determining a benefit, in which the benefit comprises a guarantee that no more than the first price for a second unit of the product will be charged if the second unit of the product is purchased as part of a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a second price; charging a customer that is purchasing the first unit of the product for the second price if the customer accepts the offer; determining a current shelf price for the second unit of the product; and charging the customer, for the second unit of the product, the lesser of the current shelf price and the first price.*

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the

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"technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

The claims of the present application are distinguished from the claims analyzed in the decisions of *State Street*, *Alappat*, *Arrhythmia* and *AT&T*, where the claims in these cases clearly involved the use of technology as shown below.

**State Street:** The claims were in means plus function form and directed to a data processing system for managing a financial services configuration of a portfolio established as a partnership; the claims included limitations of a computer processor means for processing data, a storage means for storing data on a storage medium along with first through fifth means for processing different types of financial data. As such, the claims analyzed in *State Street* clearly involved the technological arts and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**AT&T Corp:** The claims were directed to a method for use in a telecommunications system in which interexchange calls initiated by each subscriber are automatically routed over the facilities of a particular one of a plurality of interexchange carriers associated with that subscriber comprising generating a message record for an interexchange call between an originating subscriber and a terminating subscriber, and including, in said message record, a primary interexchange carrier (PIC) indicator having a value which is a function of whether or not the interexchange carrier associated with said terminating subscriber is a predetermined one of said interexchange carriers. In considering these claims, it is clear that technology is being used to "automatically route" calls over the facilities of interexchange carriers and generating a message record for the call. Furthermore, the courts, in analyzing these claims, clearly indicated that they recognized the claims require the use of switches and computers. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1450 (Fed. Cir. 1999). The court further noted that AT&T's claimed process employs subscriber's and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through *switching and recording mechanisms* to create a signal useful for billing purposes. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.



**Alappat:** The claims were directed to a rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising various means for determining distances and means for outputting illumination intensity data. Alappat's invention related generally to a means for creating a smooth waveform display in a digital oscilloscope and as indicated by the court, Alappat's invention is an improvement in an oscilloscope comparable to a TV having a clearer picture. The court reasoned that invention was statutory because the claimed invention was directed to a "machine". See *In re Alappat*, 31 USPQ2d at 1552-54 (Fed. Cir. 1994). Furthermore, in the decision of *AT&T Corp.*, the courts recognized that the claims in Alappat were for a machine that achieved certain results. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 50 USPQ2d at 1452 (CAFC 1999). Once again, these claims clearly involve the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Arrhythmia:** The claims were directed to a method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal including the step of converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time. In considering these claims, it is clear that technology is being used to convert a series of QRS signals to time segments having a digital value. Once again, these claims clearly involve the technological arts since one could not convert a signal to a time segment having a digital value without the aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, Claim 84 is completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology

whatsoever. The claims are no more than a suggested idea of offering a future discount to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *determining a first price for which a first unit of a product is being purchased as part of a first transaction at a point of sale terminal; determining a benefit, in which the benefit comprises a guarantee that no more than the first price for a second unit of the product will be charged if the second unit of the product is purchased as part of a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a second price; charging a customer that is purchasing the first unit of the product for the second price if the customer accepts the offer; determining a current shelf price for the second unit of the product; and charging the customer, for the second unit of the product, the lesser of the current shelf price and the first price.*

Furthermore, in accordance with MPEP 2106 (IV)(B)(2)(b) "Statutory Process Claims", not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. See *Diamond v. Diehr*, 450 U.S. at 183-184, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)). The claims in the present application do not appear to satisfy either of the two conditions listed above. First, the claims do not include limitations that would suggest a computer is being used to transform the data from one form to another that would place the invention in the technological arts. Second, disregarding the fact that there is no computer claimed that would physically transform the data, there does not appear to be any physical transformation of data. The claims merely determine *the benefit*; however, said *benefit* appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor. Thus, there neither appears to be any physical transformation of data from one form to another, which is

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based upon an algorithm or a calculation by a computer or processor, nor is there any technology claimed that would be used to transform the data.

Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, these claim is not permitted under 35 USC 101 as being related to non-statutory subject matter.

#### **GROUP V**

#### **Claim 85.**

#### ***Claim Rejections - 35 USC § 101***

In response to the applicant's argument that Claim Rejections under 35 USC § 101 is improper, the Examiner maintains that claims 81-83 are rejected under 35 U.S.C. 101 because the claimed method does not recite a limitation in the technological arts. The independently claimed steps of: *determining a purchase total for a first transaction being conducted at a point of sale terminal, the transaction including a plurality of products; determining a benefit, in which the benefit comprises a guarantee that an amount that is not greater than the purchase total will be charged for the plurality of products during a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a price; and charging a price to a customer participating in the first transaction if the customer accepts the offer.*

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that

promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

The claims of the present application are distinguished from the claims analyzed in the decisions of *State Street*, *Alappat*, *Arrhythmia* and *AT&T*, where the claims in these cases clearly involved the use of technology as shown below.

**State Street:** The claims were in means plus function form and directed to a data processing system for managing a financial services configuration of a portfolio established as a partnership; the claims included limitations of a computer processor means for processing data, a storage means for storing data on a storage medium along with first through fifth means for processing different types of financial data. As such, the claims analyzed in *State Street* clearly involved the technological arts and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**AT&T Corp:** The claims were directed to a method for use in a telecommunications system in which interexchange calls initiated by each subscriber are automatically routed over the facilities of a particular one of a plurality of interexchange carriers associated with that subscriber comprising generating a message record for an interexchange call between an originating subscriber and a terminating subscriber, and including, in said message record, a primary interexchange carrier (PIC) indicator having a value which is a function of whether or not the interexchange carrier associated with said terminating subscriber is a predetermined one of said interexchange carriers. In considering these claims, it is clear that technology is being used to "automatically route" calls over the facilities of interexchange carriers and generating a message record for the call. Furthermore, the courts, in analyzing these claims, clearly indicated that they recognized the claims require the use of switches and computers. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1450 (Fed. Cir. 1999). The court further noted that AT&T's claimed process employs subscriber's and call recipients' PICs as data, applies Boolean algebra to those data to determine the value of the PIC indicator, and applies that value through *switching and recording mechanisms* to create a signal useful for billing purposes. See

*AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Alappat:** The claims were directed to a rasterizer for converting vector list data representing sample magnitudes of an input waveform into anti-aliased pixel illumination intensity data to be displayed on a display means comprising various means for determining distances and means for outputting illumination intensity data. Alappat's invention related generally to a means for creating a smooth waveform display in a digital oscilloscope and as indicated by the court, Alappat's invention is an improvement in an oscilloscope comparable to a TV having a clearer picture. The court reasoned that invention was statutory because the claimed invention was directed to a "machine". See *In re Alappat*, 31 USPQ2d at 1552-54 (Fed. Cir. 1994). Furthermore, in the decision of *AT&T Corp.*, the courts recognized that the claims in Alappat were for a machine that achieved certain results. See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 50 USPQ2d at 1452 (CAFC 1999). Once again, these claims clearly involve the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

**Arrhythmia:** The claims were directed to a method for analyzing electrocardiograph signals to determine the presence or absence of a predetermined level of high frequency energy in the late QRS signal including the step of converting a series of QRS signals to time segments, each segment having a digital value equivalent to the analog value of said signals at said time. In considering these claims, it is clear that technology is being used to convert a series of QRS signals to time segments having a digital value. Once again, these claims clearly involve the technological arts since one could not convert a signal to a time segment having a digital value without the aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, Claim 85 is completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology whatsoever. The claims are no more than a suggested idea of offering a future discount to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *determining a purchase total for a first transaction being conducted at a point of sale terminal, the transaction including a plurality of products; determining a benefit, in which the benefit comprises a guarantee that an amount that is not greater than the purchase total will be charged for the plurality of products during a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a price; and charging a price to a customer participating in the first transaction if the customer accepts the offer.*

Furthermore, in accordance with MPEP 2106 (IV)(B)(2)(b) "Statutory Process Claims", not all processes are statutory under 35 U.S.C. 101. *Schrader*, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts. See *Diamond v. Diehr*, 450 U.S. at 183-184, 209 USPQ at 6 (quoting *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)). The claims in the present application do not appear to satisfy either of the two conditions listed above. First, the claims do not include limitations that would suggest a computer is being used to transform the data from one form to another that would place the invention in the technological arts. Second, disregarding the fact that there is no computer claimed that would physically transform the data, there does not appear to be any physical transformation of data. The claims merely determine *a benefit*, however, said *benefit* appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor. Thus, there neither



appears to be any physical transformation of data from one form to another, which is based upon an algorithm or a calculation by a computer or processor, nor is there any technology claimed that would be used to transform the data.

Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, these claim is not permitted under 35 USC 101 as being related to non-statutory subject matter.

### **GROUP VI**

#### **Claims 86 and 87.**

#### ***Claim Rejections - 35 USC § 101***

In response to the applicant's argument that Claim Rejections under 35 USC § 101 is improper, the Examiner maintains that claims 81-83 are rejected under 35 U.S.C. 101 because the claimed method does not recite a limitation in the technological arts. The independently claimed steps of: *determining a purchase total for a first transaction being conducted at a point of sale terminal; determining an amount of savings received by a customer participating in the first transaction; determining a benefit, in which the benefit comprises a guarantee that no less than the savings will be received by the customer during a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a price; and charging the price to the customer if the customer accepts the offer.*

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created

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vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

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presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

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*switching and recording mechanisms* to create a signal useful for billing purposes. See *AT&T Corp. v. Excel Communications Inc.*, 50 USPQ2d at 1453 (Fed. Cir. 1999). As such, the claims analyzed in AT&T clearly involved the technological arts as recognized by the court and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

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aid of a computer or some processing device and, therefore, whether or not the claimed invention involved the technological arts was not an issue.

Contrary to the claims in the above-cited cases, in the present application, claims 86 and 87 are completely silent with regard to technology and is purely an abstract idea or process steps that are employed completely without the use of any technology whatsoever. The claims are no more than a suggested idea of offering a future discount to a customer in exchange of certain obligation from the customer. The claims are completely devoid of any means to carry out a process implementing the idea of *determining a purchase total for a first transaction being conducted at a point of sale terminal; determining an amount of savings received by a customer participating in the first transaction; determining a benefit, in which the benefit comprises a guarantee that no less than the savings will be received by the customer during a second transaction; outputting, at the point of sale terminal, an offer to sell the benefit for a price; and charging the price to the customer if the customer accepts the offer.*

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appears to be an arbitrary abstract thing and not a discrete value resulting from a calculation of these parameters by a computer or processor. Thus, there neither appears to be any physical transformation of data from one form to another, which is based upon an algorithm or a calculation by a computer or processor, nor is there any technology claimed that would be used to transform the data.

Because the independently claimed invention is directed to an abstract idea which does not recite a limitation in the technological arts, those claims and claims depending from them, are not permitted under 35 USC 101 as being related to non-statutory subject matter.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,


Igor Borissov


IB

October 17, 2004

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